Flight, Born of Dreams

Timelines

Centennial of Flight Commission Website - National and international source of information about activities to commemorate the centennial of the Wright Brothers' first powered flight.

http://www.centennialofflight.gov

Make a timeline to show some important events in the history of flight. Includes teacher notes.
http://sln.fi.edu/flights/own2/challenge-history.html

Flying events in antiquity, including ancient legends, and early attempts to fly.

http://www.ctie.monash.edu.au/hargrave/timeline0.html

Flying events 1783-1849, Montgolfier brothers hot air balloon flights, Jean Blanchard, Sir George Cayley.

http://www.ctie.monash.edu.au/hargrave/timeline1.html

Flying events 1850-1876, Alphonse Penaud, Henri Giffard, N. A. Otto

http://www.ctie.monash.edu.au/hargrave/timeline2.html

Flying events 1877-1892, Otto Lilienthal, Gabriel Voisin, Octave Chanute.

http://www.ctie.monash.edu.au/hargrave/timeline3.html

Legends of Flight

Links to Greek legends.

http://www.cultures.com/greek_resources/greek_encyclopedia/greek_encyclopedia_home.html

Daedalus and Icarus – The Greek legend about an early attempt to fly.

http://216.237.150.140/greek_resources/greek_encyclopedia/greek_entry.html/daedalus_e.html

High flying escape ends in death. The story of Icarus is used as an example of newspaper article writing. Produce an article about an event in flight history.

http://quest.arc.nasa.gov/aero/events/regimes/news.html

Mythology: Flights of Fantasy. Aeronautics activities from the K-8 Aeronautics Internet Textbook.
http://wings.avkids.com/Book/Myth/beginner/index.html

Legends of Flight - Education Ideas

You can't beat the birds when it comes to controlled flight. Lessons plans for K- 4, 5-8, 9-12.

http://www.nasaexplores.com/lessons/01-071/index.html

Concrete poetry is an artistic expression of written language. Here is an example of using the words of flight to a new, creative use.

http://quest.arc.nasa.gov/aero/events/regimes/poet.html

Create commemorative posters of an event in flight history.

http://quest.arc.nasa.gov/aero/events/regimes/post.html

Helios, taking power from the sun. Present day flying wing that is powered by solar energy. Lesson plans for grades K-4, 5-8, 9-12

http://www.nasaexplores.com/lessons/01-009/index.html

Leonardo daVinci

Leonardo da Vinci: Background information

http://www.mos.org/sln/Leonardo

The sketches of Leonardo da Vinci

http://banzai.msi.umn.edu/leonardo

Balloons and Airships

Book online (see terms of use), Wonderful Balloon Ascents: Or, the Conquest of the Skies by F. Marion

http://www.worldwideschool.org/library/books/tech/engineering/WonderfulBalloonAscentsOrtheConquestoftheSkies/toc.html

Website offering balloon background, model acquisition, international activities, graphics

http://aviation.about.com/cs/lighterthanair/index.htm

The Montgolfier Brothers balloon first public experiment on June 4, 1783.

http://premiair.uk.com/montgolfier.html

Frequently asked questions about airships

http://aviation.about.com/gi/dynamic/offsite.htm?site=http%3A%2F%2Fspot.colorado.edu%2F%7Edziadeck%2Fairship.html

Benjamin Franklin observed the Montgolfier brothers first balloon attempt.

http://sln.fi.edu/franklin/scientst/scientst.html

Air and Its Characteristics: An "Ask ERIC" activity for middle school

http://askeric.org/cgi-bin/printlessons.cgi/Virtual/Lessons/Science/Physical_Sciences/PHY0075.html

Make your own hot air balloon

http://sln.fi.edu/flights/own2/weight-balloon.html

Balloon parts, graphics, short history

http://www.balloonzone.com/goballooning.html

Go Ballooning!

http://www.balloonzone.com/balloonlinks.html

Early Fixed Wing Flight

Sir George Cayley, born in 1773, is sometimes called the “Father of Aviation” is the subject of this informational essay from the Centennial of Flight Commission.

http://www.centennialofflight.gov/essay/Prehistory/Cayley/PH2.htm

Short history of Sir George Cayley with pictures.

http://www.bsu.edu/academy/webwings/hist03.html

First recorded drawings of a fixed wing aircraft by Sir George Cayley.

http://heronsgate.open.ac.uk/projects/cayley/cayley2.html

An abundance of aircraft “attempted” to fill the skies in the years following Sir George Cayley’s work.

http://www.centennialofflight.gov/timeline/search_timeline.cfm

(input in search engine 1800-1850)

Thomas Moy, Frenchman Alphonse P,naud, Victor Tatin, Louis Mouillard, Horatio F. Phillips, Lawrence Hargrave, Scot Percy Pilcher are discussed in this essay from the Centennial of Flight Commission.

http://www.centennialofflight.gov/timeline/search_timeline.cfm

(input in search engine 1850-1900)

The French experimenter Clement Ader investigated bird and bat flight and began to construct glider models in 1872.

http://www.centennialofflight.gov/timeline/search_timeline.cfm

(input in keywords box: Clement Ader)

Full biography, bibliography, and photos of Otto Lilienthal and his early aeroplanes and gliders are found at the Otto Lilienthal's Museum.

http://home.t-online.de/home/LilienthalMuseum/eotto.htm

Samuel Langley pioneered heavier-than-air flight. Find out about his contributions.

http://aerostories.free.fr/precurseurs/langley/page2.html

Although Samuel Pierpont Langley's attempts at powered flight were unsuccessful, he highlighted some of the issues relating to flight and the necessity of using a sound research methodology.

http://www.centennialofflight.gov/timeline/search_timeline.cfm

(input Samuel Langley in Search box)

The German engineer Otto Lilienthal was the first man to launch himself into the air, fly, and land safely. He also was an important source of inspiration and information for the Wright brothers in the next decade.

http://www.centennialofflight.gov/timeline/search_timeline.cfm

(input Otto Lilienthal is Search box)

Octave Alexandré Chanute made outstanding contributions to aviation through his detailed descriptions of aeronautical accomplishments, his development of successful man-carrying gliders, and his advice and encouragement to others engaged in flight research.

http://www.centennialofflight.gov/timeline/search_timeline.cfm

(input Octave Chanute in Search box)

This NASA educational poster traces the Wright Brothers' story with examples of their experiments and inventions. It also contains an activity for constructing and testing a flying model glider.

http://spacelink.nasa.gov/products/The.Process.of.Invention/

Early Fixed Wing Flight - Education Ideas

Listing of aerospace lesson plans from NASA Quest.

http://quest.nasa.gov/aero/teachers/learning.html

Teach your students the parts of an airplane and how to fold a super, duper paper airplane with this NASA. Educational On-line Activity from NASA Spacelink. Designed for grades K-4.

http://spacelink.nasa.gov/Instructional.Materials/On-line.Educational.Activities/Aviation/index.html

Off to a Flying Start consists of three modules: Introduction to Flight, Flying the Falcon Flyer, and Experimental Design.

http://ltp.larc.nasa.gov/flyingstart/description.html

A NASA Explores activity focusing on a simple fixed wing made out of plastic foam meat trays.

http://www.nasaexplores.com/lessons/01-007/5-8_2.pdf

Aeronautics Teacher Guide from NASA Educational Materials.

http://spacelink.nasa.gov/Instructional.Materials/NASA.Educational.Products/Aeronautics/

Glider challenge calls for students to develop abilities to identify and state a problem, design a solution, implement a solution, and evaluate the solution.

http://spacelink.nasa.gov/products/757.Glider.Kit/

This NASA educational poster contains metric activities associated with the Wright Brothers' flight experiments. Activities include constructing and testing a sled kite, analyzing the data, and assembling a Metric Cube.

http://spacelink.nasa.gov/products/Innovation.Through.Engineering

Teacher Notes: This is designed to guide research into the history and development of flight including activities*** in the classroom.

Grades 7-12

National Standards Addressed:

Content Standard A – Science as Inquiry

A. Physical Science

B. D not C! Earth:Solar System

C. No G! ?Science History and Human Endeavors